

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
28 April 2005 (28.04.2005)

PCT

(10) International Publication Number
WO 2005/038255 A3

(51) International Patent Classification⁷: **F04C 18/00,**
C23C 16/44

Asahi-cho, Ohta-ku, Tokyo 144-8510 (JP). KAGAWA, Koichi [JP/JP]; c/o Ebara Corporation, 11-1, Haneda Asahi-cho, Ohta-ku, Tokyo 144-8510 (JP).

(21) International Application Number:
PCT/JP2004/015563

(74) Agents: WATANABE, Isamu et al.; GOWA Nishi-Shinjuku 4F, 5-8, Nishi-Shinjuku 7-chome, Shinjuku-ku, Tokyo 160-0023 (JP).

(22) International Filing Date: 14 October 2004 (14.10.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
2003-358424 17 October 2003 (17.10.2003) JP

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(71) Applicant (for all designated States except US): **EBARA CORPORATION** [JP/JP]; 11-1, Haneda Asahi-cho, Ohta-ku, Tokyo 144-8510 (JP).

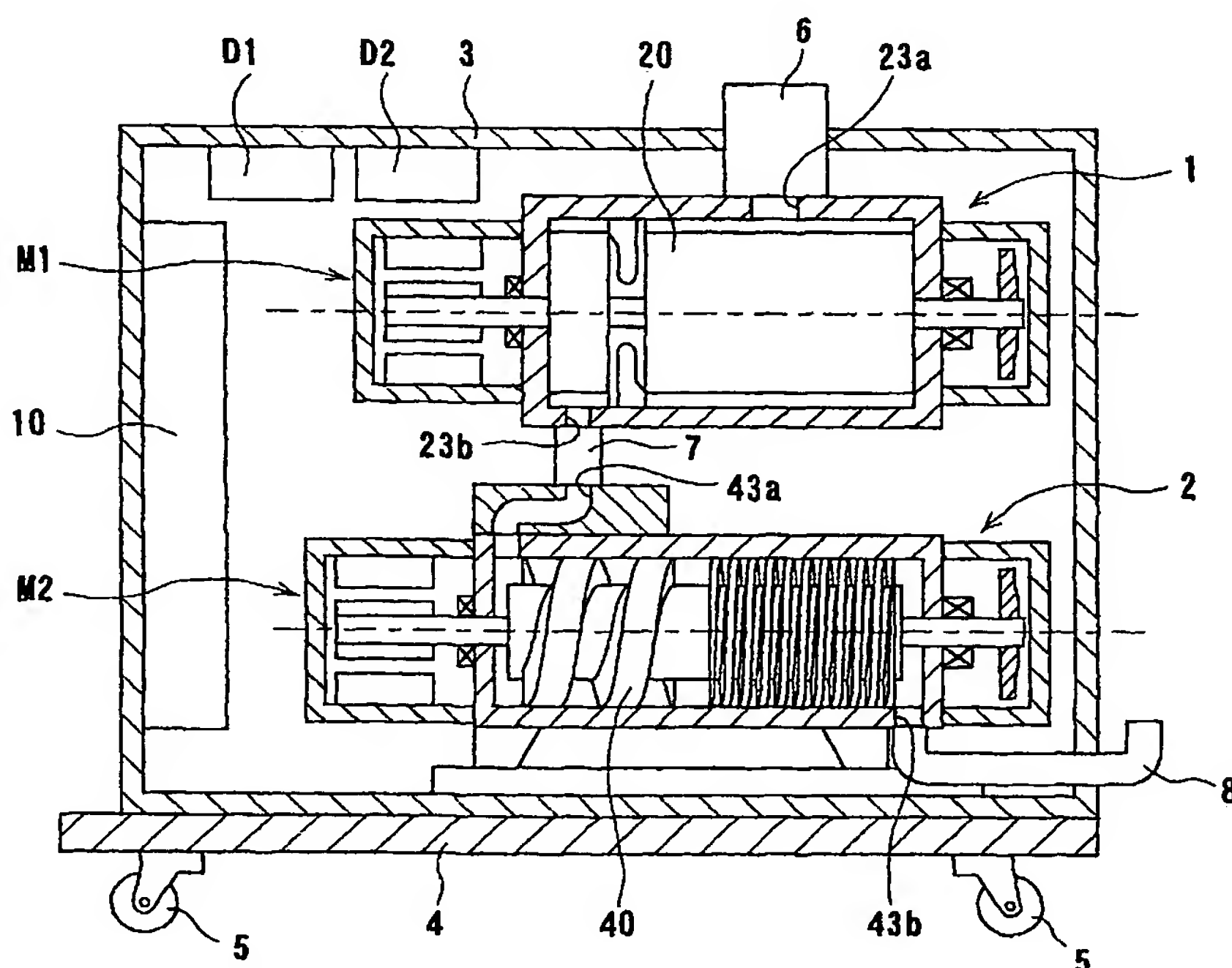
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI,

(72) Inventors; and

(75) Inventors/Applicants (for US only): **KAWAMURA, Takeshi** [JP/JP]; c/o Ebara Corporation, 11-1, Haneda

[Continued on next page]

(54) Title: EVACUATION APPARATUS



(57) Abstract: The present invention relates to an evacuation apparatus for evacuating a vacuum chamber of a substrate processing apparatus for processing a substrate such as a semiconductor wafer or liquid crystal panel. An evacuation apparatus according to the present invention includes a first vacuum pump connected to a vacuum chamber, and a second vacuum pump connected to the first vacuum pump. The first vacuum pump has a pair of multistage pump rotors.



SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Date of publication of the amended claims: 29 December 2005

Published:

- with international search report
- with amended claims

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(88) Date of publication of the international search report:

3 November 2005